Self-efficacy and the Stress-Health Relationship: A Temporal Investigation

Self-efficacy has been linked to a myriad of outcomes to include persistence (Bandura & Wood, 1989), academic success (Pintrich & Schunk, 2002), performance (Frayne & Latham, 1987; Eden & Zuk, 1995), and leader effectiveness (Fielder & Garcia, 1987; Chemers, 2000). The one area where self-efficacy has received relatively little attention has been in the field of occupational stress. This is surprising because self-efficacy beliefs almost certainly affect how individuals cope with work stressors (Jex & Bliese, 1999).

It is reasonable to expect that the impact of work stressors may be less severe for individuals with high self-efficacy than for individuals with low self-efficacy. Several studies have examined this hypothesized buffering relationship with mixed support. For instance, Jex and Gudanowski (1992) found no evidence that self-efficacy provided buffering effects while Jex and Bliese (1999) found compelling evidence showing that self-efficacy performed a buffering role. Jex and Bliese (1999) argued that efficacy might have acted as a buffer because individuals high in self-efficacy were more likely to do something about work stressors (i.e., have a proactive coping style) than were individuals with low self-efficacy. Indeed, subsequent research has shown that buffering effects are tempered by individual coping styles and perceptions of job control (Schaubroeck & Merrit, 1997; Jex, Bliese, Buzzell and Primeau, 2001; Schaubroeck, Jones, & Xie; 2001).

The current research examined the relationships among self-efficacy, work demands, and role clarity. Role clarity (lack of) has been examined in numerous occupational stress studies (see meta analyses by Abramis, 1994, and Jackson & Schuler, 1985) and is undoubtedly a stressor experienced in many work settings. In addition to examining role clarity, the present study extends previous research in two ways. First, we employ a longitudinal design rather than

use the concurrent designs typically employed in occupational stress research that have their limitations (see Sanchez & Viswsevaran, 2002; Spector, 1987). Second, covariates of strain and efficacy, specifically experience, age, and negative affect are included in our analyses.

Hypothesis

After controlling for age, experience, and negative affect, individual reports of self-efficacy collected prior to exposure to stressors will show a three-way interactive relationship with work overload and role clarity in predicting psychological strain. Specifically, individuals with high efficacy will show less of a link between work overload and strain than will individuals with low efficacy, but this buffering interaction will only be evident when role clarity is high.

Method

Our sample consisted of 2,403 US Army ROTC cadets attending the 32-day leadership training and evaluation course called the National Advanced Leadership Camp (NALC). Data were collected at two time points. First, a survey asking cadets to respond to demographic and individual difference questions, including self-efficacy, neuroticism, age, and previous military experience was administered to all cadets within the first 4 days of the NALC. Survey responses were then paired with stressor and strain data collected on Day 26, during the most intense phase of the assessment. Measures are summarized below.

Measure	Reference	Sample Item	Cronbach's Alpha
Self-efficacy	Jones (1986)	"My current role as a cadet is well within my abilities."	.70
Neuroticism	Goldberg (1999)	"I worry about things."	.85
Work Overload	Cammann, Fichman, Jenkins, & Klesh (1983)	"I have so much work to do, I cannot do everything well"	.81
Role Clarity	Cammann, et al. (1983)	"I know what I have to do to perform well at Advanced Camp."	.80
Well-Being	Goldberg (1972)	"In the last two weeks rate the extent to which you have experience *loss of sleep due to worry*"	.77
Morale	Walter Reed Army Institute of Research scale (1998)	Rate from low to high *your personal motivation*	.85

Analytical Strategy

Because cadets were nested within units, group membership was included as a random effect in the analyses using random coefficient modeling. This strategy ensured that parameter estimates and standard errors would be unbiased by group membership (see Bliese, 2002; Hox, 2002). Predictors were grand-mean centered to reduce multicolinearity (Aiken & West, 1991).

Results

Analyses revealed that of our three covariates (age, experience and neuroticism) only neuroticism was related to well-being. Moreover, perceptions of work overload, role clarity and self-efficacy all explained unique variance in well-being after controlling for neuroticism. Most importantly in terms of the hypothesis, however, was that the models for both morale and psychological well-being revealed a three-way interactive effect among efficacy, overload and clarity. See Figures 1 and 2 for the exact forms of these interactions.

Discussion

Results supported our hypothesis. The form of the interactions showed a classic buffering relationship with efficacy ameliorating the effects of work overload on both morale and well-being, but only in the high role clarity situation. In the low role clarity situation, high self-efficacy provided no buffering effects. Indeed, in the low role clarity and high work overload situation, there was virtually no benefit to having high self-efficacy. Essentially, under heavy workload conditions, an individual with high self-efficacy but without clear ideas about what needs to be done to be successful is virtually indistinguishable from an individual with low self-efficacy.

Incorporating covariates and multiple time points were two key features of the study. Ascertaining the role of initial levels of self-efficacy in the occupational stress process suggests

that self-efficacy effects are fairly stable across time. Cadets' perceptions of their abilities at the beginning of the NALC apparently permeated their experiences throughout the exercise. This is important because it implies that if self-efficacy can be developed through training, the effects of self-efficacy will endure for some time.

In terms of practical significance, these results highlight the difficulty of applying a single solution to complex problems of behavioral science. Increasing individuals' self-efficacy is certainly likely to lead to beneficial effects in terms of well-being and performance (i.e., main effects). The issue of whether self-efficacy will help protect individuals from work stressors is more complex. At this point, however, the evidence appears to suggest one can protect individuals from the negative effects of work stressors by the combination of (a) providing training to enhance self-efficacy and (b) creating work situations that are well-defined and facilitate proactive involvement when work stressors are encountered.

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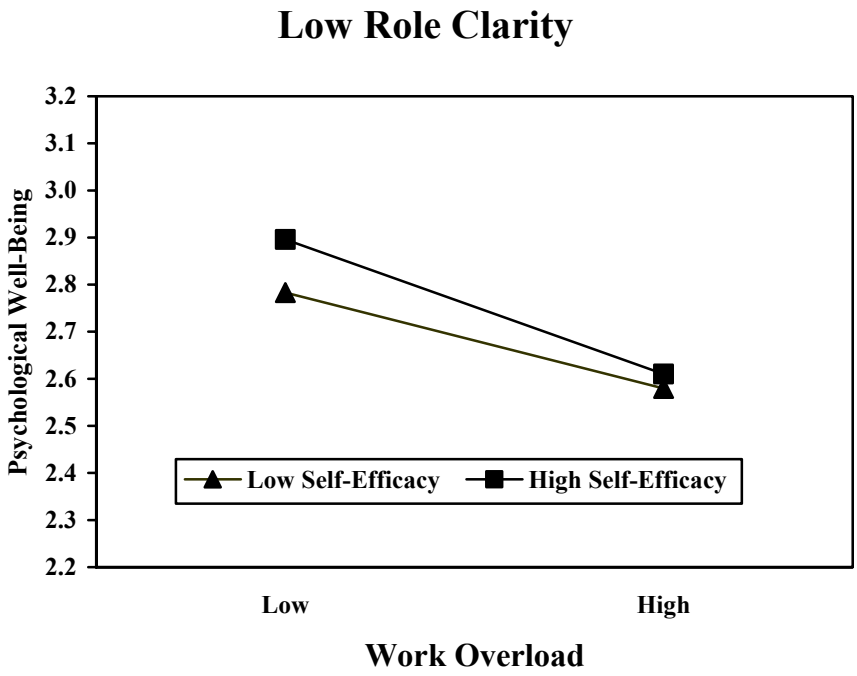
Figure 1. Interaction between role clarity and self-efficacy in the overload-well being linkage.



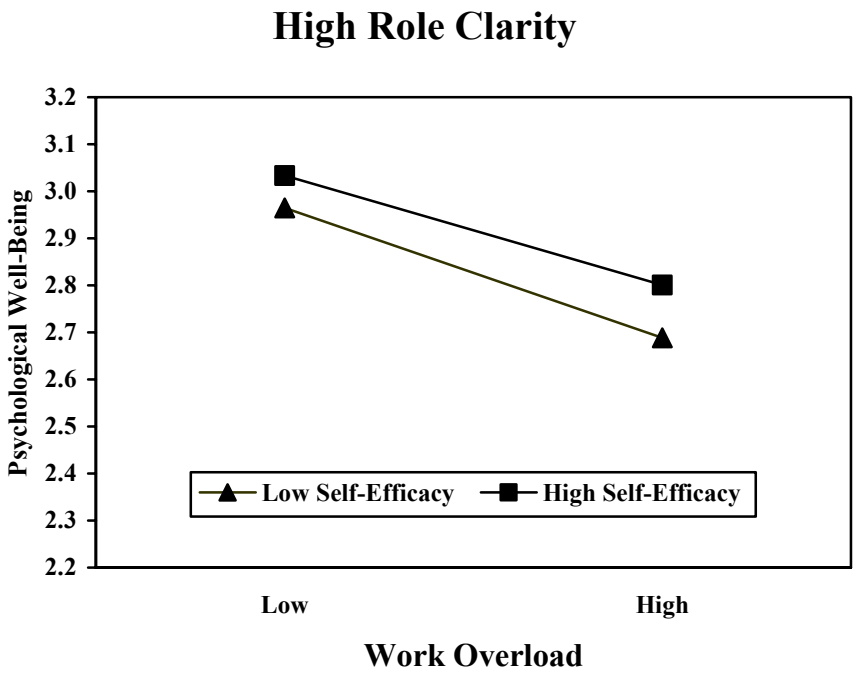


Figure 2. Interaction between role clarity and self-efficacy in the overload-morale linkage.